

151323

Wednesday, September 21, 2016 1:37:00 PM

Approvals: **Process Plan:** dm **Date:** 16/09/21 **Tooling:** _____ **Date:** _____
 QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

100		0.00	
100	Small Fab		
Small Fab	Memo	0.02	
Small Fab	Press D2805-2 and D2809 into arm as per Dwg D2804		

2x _____ 16/09/22

86
9-89

120 White Gloss(Ref:4.3.5.1) per OSI005 4.3-Alum 0.00
120 M135418.
Powdercoat Memo 0.01
Powder Coating START TIME: 8:20 OVEN TEMPERATURE:
300 FINISH TIME: 8:50.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER :					

Work Order ID 151323***151323***

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Wednesday, September 21, 2016 1:37:00 PM

Item ID: D2804-042 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: RH Step Fwd Bracket
Start Date: 9/26/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 9/29/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>2</u>			DAS 38 9-89 SEP 23 2016
150 *150* Small Fab Small Fab	Small Fab Memo 1-Spray LPS-3 on Bolt Shaft, not on thread as per Dwg D2804 2-Assemble as per Dwg D2804.	0.00 0.04				<u>2x</u>			DAS 36 9-89 16/09/2016
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.01				<u>2</u>			DAS 38 9-89 SEP 26 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : ☐					

Work Order ID 151323***151323***

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Revision ID: Stop ***NS2***
Item Name: RH Step Fwd Bracket
Start Date: 9/26/2016 Start Qty: 2.00 ***2*** Cust Item ID:
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Identify as per dwg & Stock Location: S474	0.00							
170									
Packaging	Memo	0.00							
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.03							
Quality Control									

DAS
21
9-89

SEP 28 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Picklist Print

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Page 1

Work Order ID: 151323

151323

Parent Item: D2804-042

D2804-042

Parent Item Name: RH Step Fwd Bracket

Start Date: 9/26/2016

Required Date: 9/29/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP F05.03.30MS21043-3 was MS21042L3 KJ/JLM
IPP Rev:G As per Rev C 06-11-08 JLM
IPP REV:H 16.06.23 AS PER DWG REV.D DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C16A		Purchased	No			150	Each	193.0000	2	4			DAS 36 9-89
AN3C16A									**			16/09/26	
BOLT													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				OVER002				183					
				m134955				43					
				m135704				140					
				ST348				10					
				m131153				2					
				m131957				8		4			
D2804-2		Manufactured	No			100	Each	4.0000	1	2			DAS 36 9-89
D2804-2									**			16/09/22	
Bracket													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST475				4					
				146642				4					
D2805-2		Manufactured	No			100	Each	25.0000	1	2			DAS 36 9-89
D2805-2									**			16/09/22	
Stop													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST010				25					
				149476				25		2			

151277 (2x)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Parent Item: D2804-042

D2804-042

Parent Item Name: RH Step Fwd Bracket

Start Date: 9/26/2016

Required Date: 9/29/2016

Start Qty: 2.00

Required Qty: 2.00

D2809

Manufactured No

100

Each

33.0000

1

2

D2809

Washer

16/09/26 DAS 36 9-89

Location

Loc Qty

Loc Code

GA

8

127638

4

130466

2

146514

2

ST011

25

138750

14

34035

11

2

D3672-15

Manufactured No

150

Each

567.0000

4

8

D3672-15

Phenolic Washer

16/09/26 DAS 36 9-89

Location

Loc Qty

Loc Code

ST049

500

149430

500

ST050

67

148073

67

8

DQA: _____ Date: _____



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Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

Picklist Print

Wednesday, September 21, 2016 1:37:00 PM

Work Order ID: 151323

151323

Parent Item: D2804-042

D2804-042

Parent Item Name: RH Step Fwd Bracket

Start Date: 9/26/2016

Required Date: 9/29/2016

Start Qty: 2.00

Required Qty: 2.00

MS21043-3

Purchased

No

150

Each

1,454.000

2

4

MS21043-3

16/09/26 **DAS 36 9-89**

Nut

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	80	
103691	80	
FP001	11	
m130673	11	
GA	203	4
m133990	203	
OVER007	400	
m134861	0	
m135704	400	
ST302	691	
m135442	291	
m135544	400	
ST304	69	
m131340	69	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

ITEM	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D2804-041	BRACKET ASSY
		X	D2804-042	BRACKET ASSY
1	1		D2804-1	STA 155 BRACKET
2		1	D2804-2	STA 155 BRACKET
3	1		D2805-1	STOP
4		1	D2805-2	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

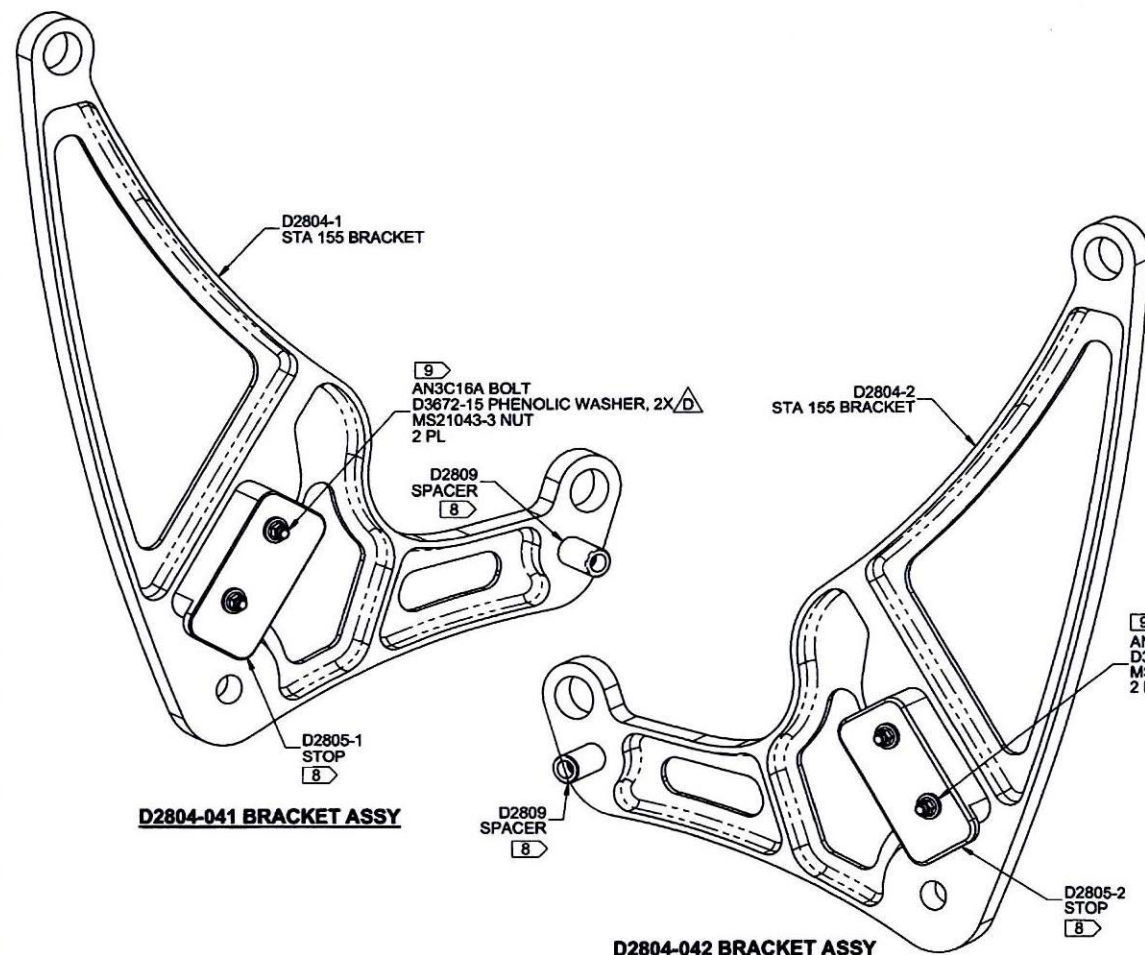
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 151323
dem 16/09/21

RELEASED

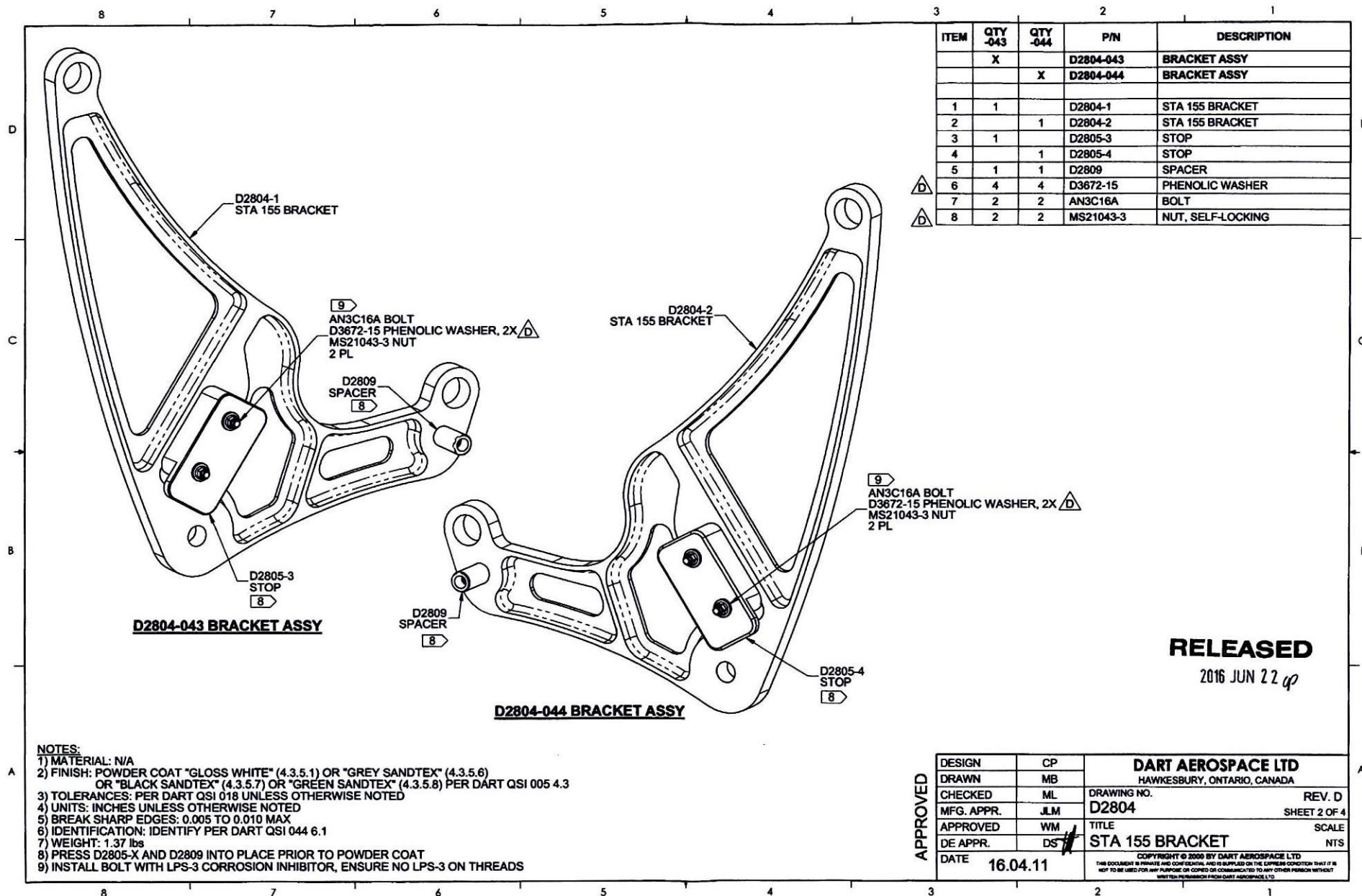
2016 JUN 22 *qf*
EIN 16-661

D	REVISE TO CURRENT FORMAT; D3672-15 WAS NAS1515H3; MS21043-3 WAS MS21042-3; ADD CSINK (SECTIONS E-E AND J-J). REF: PART 16-499, D6-3/4; 2.656 WAS 2.654 REASON: CAD ERROR.	MB	16.04.11
C	CHANGE GEOMETRY TO ADD CLEARANCE	CP	06.10.16
B	ADD CUTOUTS AND -043/-044	CP	04.11.22
A	NEW ISSUE	CP	00.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

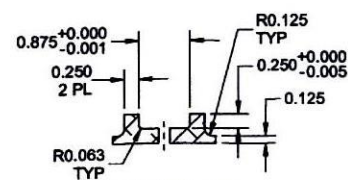
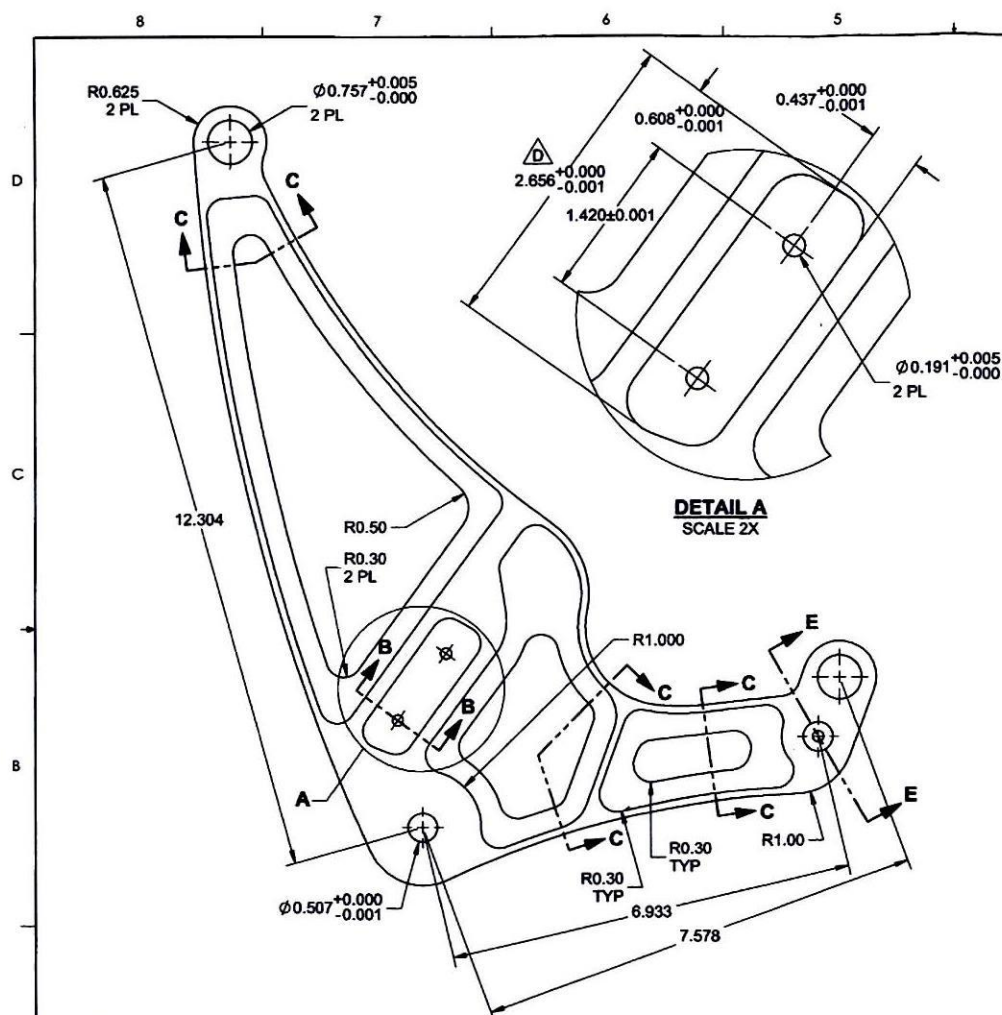
APPROVED



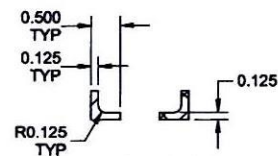
- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEX" (4.3.5.6) OR "BLACK SANDEX" (4.3.5.7) OR "GREEN SANDEX" (4.3.5.8) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
 - 7) WEIGHT: 1.37 lbs
 - 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
 - 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS



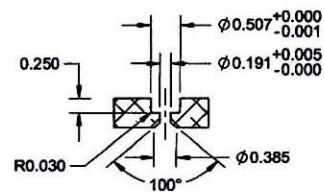
APPROVED	DESIGN	CP	DART AEROSPACE LTD	
	DRAWN	MB	HAWKESBURY, ONTARIO, CANADA	
	CHECKED	ML	DRAWING NO.	REV. D
	MFG. APPR.	JLM	D2804	SHEET 2 OF 4
	APPROVED	WM	TITLE	SCALE
	DE APPR.	DS	STA 155 BRACKET	NTS
	DATE	16.04.11		COPYRIGHT © 2000 BY DART AEROSPACE LTD
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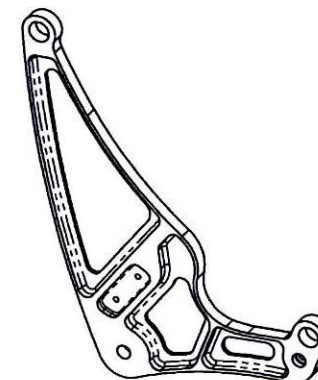
SECTION B-B
(ROTATED)



SECTION C-C
(ROTATED)



SECTION E-E
(ROTATED)



D2804-1 STA 155 BRACKET

NOTES:

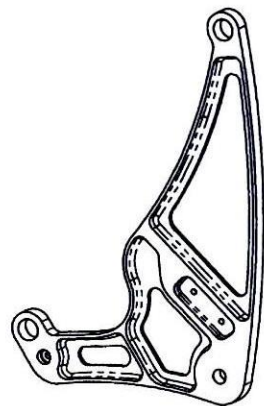
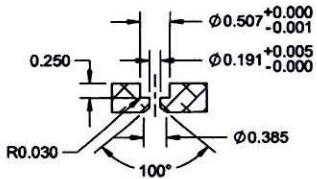
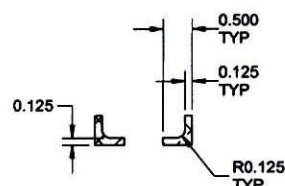
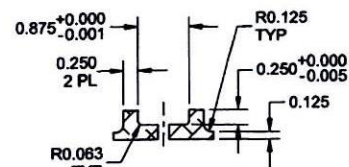
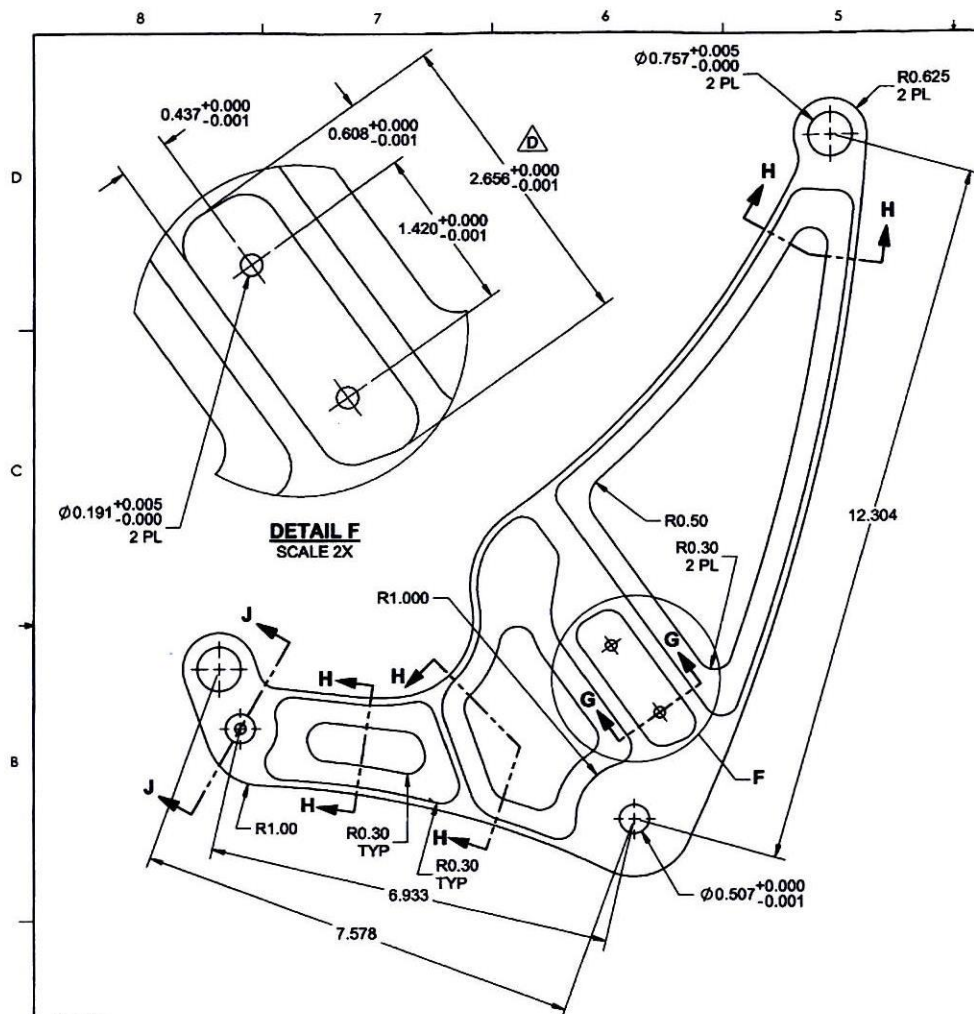
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.01 lbs
- 8) MACHINE PER PART FILE D2804-1_REV.D.SLDPRT

APPROVED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	MB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 3 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
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RELEASED

2016 JUN 22 q?



D2804-2 STA 155 BRACKET

RELEASED

2016 JUN 22 4⁰

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.01 lbs
- 8) MACHINE PER PART FILE D2804-1_REV.D.SLDPRT

APPROVED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	MB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 4 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
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